Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
to Ensure Compatibility with	)	RM-8143
Enhanced 911 Emergency	)	
Calling Systems	)	

To: The Commission

PETITION FOR WAIVER

Poka Lambro PCS, Inc. ("Poka Lambro"), by its attorneys, hereby petitions the Federal Communications Commission for a waiver of the requirements of Section 20.18(c) of the Commission's Rules, 47 C.F.R.§20.18(c). Poka Lambro will be unable to meet the December 31, 1998 deadline for compliance with the requirements of Section 20.18(c), concerning the transmission of "911" emergency calls made from TTY devices using digital wireless systems.[1] Poka Lambro files this waiver request in accordance with the procedures established therefor.[2]

Poka Lambro provides CDMA-based PCS service to subscribers in the Lubbock, Texas BTA. Poka Lambro's switch vendor, Motorola, has not yet developed a solution with respect to the transmission of 911 signals from TTY devices over its digital system. Motorola reports, however, that it is addressing this matter (see attached report).

Good cause exists for waiver. The Commission recognizes the difficulty in meeting the

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1 In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, RM- 8143, Order, DA 98-2323, rel. Nov. 13, 1998.

2 Id.

current timetable for compliance with the 911 TTY requirements of Section 20.18(c), and also recognizes that carriers operating digital wireless systems will not be able to come into compliance with the requirements of Section 20.18(c) absent the development and deployment of equipment technically capable of performing the required functions. Accordingly, compliance with the requirements of Section 20.18(c) currently is technically infeasible with respect to digital systems.

In accordance with the requirements for waiver of the December, 1998 compliance deadline,[3] Poka Lambro provides the following information:

Having received its vendor's response to a series of inquiries regarding 911/TTY capability only recently, Poka Lambro will evaluate the options identified and to be detailed by Motorola and, consistent with its commitment to provide competitive service to the public in compliance with the Commission's Rules, will choose and implement the methodology which promises an economic and efficient solution. Poka Lambro is, however, wholly dependent upon the timely receipt of information to be provided by its vendor as the necessary prerequisite to establishing implementation timetables and estimated milestones. As with any equipment upgrade, the choice of methodology will be followed by an ordering process, installation and testing, prior to initiation of service. Poka Lambro will continue to work with its vendor and notes that Motorola is actively involved not only in product development, but also with industry groups seeking solutions to the 911/TTY access issue.

Motorola has evaluated its two proposed solutions with respect to their responsiveness to consumer concerns referenced in the Commissions September 30, 1998 Order in this

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3 Id. at para. 11.

proceeding. Poka Lambro will consider these variables in its decision-making process. In addition, given that several concerns are related to subscriber equipment capability, Poka Lambro, as a retail outlet for wireless equipment, will continue its practice of ensuring that consumers are educated regarding equipment availability and features. In addition, and consistent with its carrier obligations, Poka Lambro will continually update its customers regarding the status of its system's 911/TTY capability.

Based on the foregoing, good cause exists for waiver of Section 20.18(c) of the Commission's Rules. Poka Lambro will submit quarterly updates detailing timetables and milestones.

Respectfully submitted,

POKA LAMBRO PCS, INC.

By: _____
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December 4, 1998

DECLARATION OF MICKEY L. SIMS

I, Mickey L. Sims, CEO of Poka Lambro PCS, Inc. ("Poka Lambro"), do hereby declare under penalties of perjury that I have read the foregoing "Petition for Waiver" and the information contained therein regarding Poka Lambro is true and accurate to the best of my knowledge, information and belief.

Date: 12-4-98

Mickey L. Sims

MOTOROLA

December 3, 1998

Dear Informed Customer;

Motorola fully supports the goals of Federal Communications Commission which has called on telecommunications providers to ensure compatibility of existing TDD equipment with Enhanced 911 Emergency Calling Systems.

Motorola has been an active participant in all of the activities related to the implementation of Digital Cellular E911 and Section 255 of the Telecommunications Act of 1996. Motorola was a member of the Telecommunications Access Advisory Committee, a government-sponsored process in which disabled persons, government representatives and industry explored ways to achieve the goals of Section 255 and assisted the Access Board in the creation of the guidelines for implementing Section 255.

We also are working with industry groups, including the Cellular Telecommunications Industry Association (CTIA) Wireless TTY/TDD Forum and the Telecommunications Industry Association Cellular Data Group (TIA/CDG), to find possible solutions for TDD access over digital wireless systems.

In light of the recent Orders released by the Federal Communications Commission, DA98-1982, released September 30, 1998 (September Order) and DA98-2323, which was released November 13, 1998, (November Order) Motorola would like to share with you our plans for providing compliance.

1. Motorola will continue to work with the CTIA Wireless TTY/TDD Forum and TIA/CDG to collect and present test results and demonstrations of several potential methods for dealing with the incompatibility between TDD devices and the Code Division Multiple Access (CDMA) cellular digital technology.
2. Motorola is working with our vendors to build a plan for adding V.18 protocols to the Inter-working Unit (IWU). Part of this plan would be to add this capability in a software upgrade to the IWU. At this time, we anticipate having this plan completed in February, 1999.
3. Motorola is also evaluating vocoder-based solutions that involve changes to the CDMA vocoder as proposed in the TIA/CDG, as well as internally developed solutions. Unfortunately, due to the complexity of the vocoder solutions, we view these as longer term solutions, not short term.

Part of the requirement of the November Order, is to show what steps the carrier will take to address the consumer concerns in the September Order. Motorola has evaluated these concerns in light of the solutions proposed for the infrastructure, and we have included them here.

Either a vocoder solution or the V.18 data solution will address certain of the consumer concerns cited in the September Order. The concerns are listed below, followed by our evaluation for each of the solutions.

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1. The character error rate should approximate that of AMPS, which has been demonstrated at <1% for stationary calls. More research on AMPS performance with TTY would be useful to assist in specifying a range of conditions.

   V.18 - This should have the lowest character error rate of the two solutions, on the order of $1x10^{-6}$ or less.

   Vocoder - Would have a higher error rate, but it would be designed to mitigate the 8% error rate that currently exists, and should be within the desired rate.

2. The TTY caller must be able to visually monitor all aspects of call progress provided to voice users. Specifically, the ability to pass through sounds on the line to the TTY (so that the user can monitor ring, busy, answered-in-voice, etc.) should be provided.

   V.18 - A data call on CDMA does not invoke the vocoder, therefore, no sounds would be available to the caller. Busy signals are automatically detected and reported.

   Vocoder - Since this system uses the vocoder, all signals and audible responses should be transported as part of the normal call set-up and answer.

3. There must be a visual indication when the call has been disconnected.

   Either Solution - This requirement is for the subscriber device. Today, Motorola phones have a visual indicator of "in-use". Loss of indicator means the call has been disconnected.

4. A volume control should be provided.

   Either Solution - This requirement is for the subscriber device, and Motorola currently has a volume control on all of its phones.

5. The TTY user must have a means of tactile (vibrating) ring signal indication.

   Either Solution - This requirement is for the subscriber device, and Motorola currently offers vibrating ring on many models.

6. The caller must be able to transmit TTY tones independent of the condition of the receiving modem. (This is to permit Baudot signaling by pressing a key, to let a hearing person know that the incoming call is from a TTY.)

   V.18 - This capability is addressed by the V.18 protocol. Baudot only systems have no "Calling Tone" -- the signal heard when facsimile machines begin to connect. V.18 automatically tries to determine the condition of the called modem, and negotiates the appropriate protocol.

   Vocoder - With the Vocoder solution, it is expected that the network will only send the signals that it receives. If no signal is transmitted, it sends silence. Pressing a key such as the spacebar, would cause a "space" character to be transmitted. This would meet the requirement.

7. The land-line party's TTY must not require retrofitting in order to achieve the desired error rate.

   V.18 - This protocol consists of five different TDD protocols and the ability to determine which protocol to use. This would have no impact on the land-line TDD.

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It is expected that the wireless TDD will either be modified to use RS-232 to communicate with the IWU or have a device to convert the TTY signals to serial data.

Vocoder - This solution is expected to provide Baudot TTY signals, which would be compatible with existing TDD devices.

8. The wireless party's TTY may require retrofitting, or a new model TTY to be developed, or the use of a portable data terminal such as a personal digital assistant.

   V.18 - The V.18 protocol is engaged by using a Hayes Compatible modem command, "AT+MV18S". This command can come from the phone, a device that attaches the TDD to the phone, or by the subscriber entering it directly. The phone will be expecting RS-232 communications from the TDD.

   If the TDD is a Personal Digital Assistant, computer, or portable data terminal, the subscriber would also be able to connect to most any Remote Access Server, such as those provided by Internet Service Providers or On-line Information Providers. This is because they would have full access to the capabilities of the IWU for data transmission.

   Vocoder - It is expected that this solution will require minor changes to allow connection of the TDD audio signals to the CDMA wireless phone. However, it will be designed for Baudot signals only.

9. VCO and HCO should be supported where possible.

   V.18 - Unfortunately, it is currently not possible to switch between voice and data while on a data call, nor is it possible to perform simultaneous voice and data transmissions. These features are under assessment, and are not committed to any release.

   Vocoder - This solution is seen to provide automatic switching between the Baudot signals and voice, and provide for a smooth transition between HCO and VCO.

10. Reduction of throughput (partial rate) on Baudot is highly undesirable and should not be relied upon to achieve compliance (see #7). It may be useful as a user-selectable option to improve accuracy on a given call.

    V.18 - Reduction of throughput by increasing the length of the bit transmission rate is not necessary with V.18. The data is carried as RS-232 serial data over the air with full error recovery at speeds of either 14.4 Kbps or 9.6 Kbps. Only once it reaches the modem in the IWU, where it is no longer subject to the vagaries of the air interface, is it transmitted as full rate Baudot.

    Vocoder - This will depend on the design of the solution, but it is not expected to be required.

11. Call information such as ANI and ALI, where provided in wireless voice, should also be provided for TTY calls.

    V.18 - Tests with the currently shipping IWU show that all the information provided a voice E911 call is also provided for a data E911 call. This includes ANI/ALI.

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selective routing, and cell-sector location information. A data call will provide the same E911 Phase I call information as provided for voice.

Vocoder - Since this solution is voice-channel based, it too should provide all the Phase I call information.

12. The solution need not support little-used or obsolete TTY models, but in general should support the embedded base of TTYs sold over the past ten years. The land-line equipment supported must not be limited to that used in Public Service Answering Points (911 centers).

    V.18 - This solution will support up to five modern TDD protocols which are used worldwide. If the TDD is a computer or PDA, it will also provide access to many more computer systems.

    Vocoder - This solution will be based on Baudot, and it is expected that it will be equal to the quality of Baudot currently available.

13. Drive conditions must be supported, again using AMPS as a benchmark.

    V.18 - Unfortunately, since V.18 is not currently available with Baudot support in the IWU, drive testing is not possible. When performing test results for acceptance, a drive test may be performed at the option of the carrier.

    Vocoder - Unfortunately, since a vocoder-based solution is not currently available, drive testing is not possible. When performing test results for acceptance, a drive test may be performed at the option of the carrier.

It is our sincere hope that this information is timely and useful. If you have any questions regarding compatibility with Enhanced 911 Emergency Services, please feel free to contact your Motorola representative.

Thank you, and we look forward to working with you on this project. We will keep you apprised of future developments.

Sincerely,

Daniel Zimny, Program Manager

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